UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS P.O. Box 1450 Alexandria, Virginia 22313-1450 www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

29471

7590

02/05/2010

MCCRACKEN & FRANK LLP 311 S. WACKER DRIVE SUITE 2500 CHICAGO, IL 60606 EXAMINER

CHAO, ELMER M

ART UNIT PAPER NUMBER

3737

DATE MAILED: 02/05/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,677	03/11/2004	John Michael Green II	29997/068	6318

TITLE OF INVENTION: SYSTEM FOR DETERMINING A POSITION OF A POINT ON AN OBJECT

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	05/05/2010

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE

Commissioner for Patents P.O. Box 1450

Alexandria, Virginia 22313-1450 (571)-273-2885 or <u>Fax</u>

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for

maintenance fee notifications. Note: A certificate of mailing can only be used for domestic mailings of the CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address) Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission. 29471 7590 02/05/2010 Certificate of Mailing or Transmission MCCRACKEN & FRANK LLP I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below. 311 S. WACKER DRIVE **SUITE 2500** CHICAGO, IL 60606 (Depositor's name (Signature (Date APPLICATION NO. FIRST NAMED INVENTOR ATTORNEY DOCKET NO. CONFIRMATION NO. FILING DATE 10/798.677 03/11/2004 John Michael Green II 29997/068 6318 TITLE OF INVENTION: SYSTEM FOR DETERMINING A POSITION OF A POINT ON AN OBJECT APPLN. TYPE SMALL ENTITY ISSUE FEE DUE PUBLICATION FEE DUE PREV. PAID ISSUE FEE TOTAL FEE(S) DUE DATE DUE nonprovisional NO \$1510 \$300 \$0 \$1810 05/05/2010 **EXAMINER** ART UNIT CLASS-SUBCLASS CHAO, ELMER M 3737 600-424000 1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363). 2. For printing on the patent front page, list (1) the names of up to 3 registered patent attorneys ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached. or agents OR, alternatively, (2) the name of a single firm (having as a member a ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required. registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type) PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment. (A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY) 4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above) 4a. The following fee(s) are submitted: lssue Fee A check is enclosed. Publication Fee (No small entity discount permitted) Payment by credit card. Form PTO-2038 is attached. The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number ______ (enclose an extra copy of this fo Advance Order - # of Copies _ (enclose an extra copy of this form). 5. Change in Entity Status (from status indicated above) a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ■ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2). NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office. Authorized Signature Date Typed or printed name Registration No. This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.

OMB 0651-0033

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE



United States Patent and Trademark Office

UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS P.O. Box 1450

P.O. Box 1450 Alexandria, Virginia 22313-1450 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,677 03/11/2004		John Michael Green II	29997/068	6318
29471 75	90 02/05/2010		EXAM	INER
MCCRACKEN & FRANK LLP			CHAO, ELMER M	
311 S. WACKER DRIVE			ART UNIT	PAPER NUMBER
SUITE 2500 CHICAGO, IL 60606			3737 DATE MAILED: 02/05/201	0

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 361 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 361 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

	Application No.	Applicant(s)		
	10/798,677	GREEN ET AL.		
Notice of Allowability	Examiner	Art Unit		
	ELMER CHAO	3737		
The MAILING DATE of this communication appears on the cover sheet with the correspondence address All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included nerewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS. This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.				
1. This communication is responsive to				
2. \boxtimes The allowed claim(s) is/are $\underline{1-4,6-23,25-31,33-57,59-78,81}$	-101,103-108,111,113-115,117-125	and 127-137.		
 3. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some* c) None of the: 1. Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No 3. Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)). 				
* Certified copies not received:				
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.				
4. A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.				
5. CORRECTED DRAWINGS (as "replacement sheets") mus	. CORRECTED DRAWINGS (as "replacement sheets") must be submitted.			
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached				
1) hereto or 2) to Paper No./Mail Date				
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date				
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).				
6. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.				
Attachment(s) 1. ☐ Notice of References Cited (PTO-892) 2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948) 3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material	5. ☐ Notice of Informal P 6. ☐ Interview Summary Paper No./Mail Dat 7. ☑ Examiner's Amendr 8. ☐ Examiner's Stateme 9. ☐ Other	(PTO-413), e		

Art Unit: 3737

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in an email correspondence with Cato Yang on 1/15/2010.

The application has been amended as follows:

1. (currently amended) A system for determining a global position of an anatomical structure of a patient's body, comprising:

a surgical navigation system;

a substrate adapted to be removably mounted to an outer surface of a user's body;

a sensor attached to the substrate that can be tracked by the surgical navigation system to determine a position of the sensor;

a positional device attached to the substrate;

a structure adapted to be mounted to a finger of the user, wherein the structure is movable in relation to the sensor and the structure is adapted to be placed adjacent to a point on the anatomical structure, and wherein the positional device is adapted to determine a relative position of the structure in relation to the positional device; and

a first circuit for calculating a global position of [[a]]the point on the anatomical structure by correlatingconcatenating [[a]]the position of the sensor and the relative position of the structure.

2. (original) The system of claim 1, wherein a second circuit is provided for displaying the global position of the point on the anatomical structure.

Art Unit: 3737

3. (previously presented) The system of claim 1, wherein the structure is attached to the substrate and the substrate is sufficiently flexible to enable the structure to reach a point on the anatomical structure that is obstructed from view.

- 4. (previously presented) The system of claim 1, wherein tactile feedback to the user aids the user in maneuvering the structure so that a position of the structure correlates to the point on the anatomical structure.
- 5. (canceled) The system of claim 1, wherein the anatomical structure is mapped by concatenating the position of a plurality of points.
- 6. (previously presented) The system of claim 1, wherein the substrate comprises a glove and the structure comprises a fingertip of the glove.
- 7. (previously presented) The system of claim 1, wherein the structure comprises a pointer.
- 8. (previously presented) The system of claim 7, wherein the pointer includes a depressible tip.
- 9. (original) The system of claim 8, wherein depressing the depressible tip activates the positional device.
- 10. (original) The system of claim 9, wherein the depressible tip includes a transducer for activating the positional device when a defined pressure value is met.
- 11. (previously presented) The system of claim 8, wherein a position of the structure that correlates to the point on the anatomical structure is a position of the depressible tip.

Art Unit: 3737

12. (previously presented) The system of claim 1, wherein a position of the structure that correlates to the point on the anatomical structure is a position of a tip of the structure.

- 13. (previously presented) The system of claim 12, wherein the tip of the structure is located at a tip of a glove fingertip.
- 14. (previously presented) The system of claim 12, wherein the tip of the structure is located adjacent a pad of a glove fingertip.
- 15. (previously presented) The system of claim 12, wherein the tip of the structure is located anywhere along the length of the structure.
- 16. (original) The system of claim 1, wherein the substrate includes a switch to activate the positional device.
- 17. (original) The system of claim 16, wherein the switch is located in the palm of a hand.
- 18. (original) The system of claim 1, wherein the sensor is an optical tracking device.
- 19. (original) The system of claim 1, wherein the anatomical structure is a bony structure.
- 20. (previously presented) The system of claim 1, wherein the first circuit is adapted to calculate the global position of the point when the substrate moves in relation to the point.

Art Unit: 3737

21. (original) The system of claim 1, wherein the positional device comprises a magnetic tracker.

22. (original) The system of claim 1, wherein the positional device comprises a fiber optic device.

Art Unit: 3737

23. (currently amended) A method for determining a position of a point on an anatomical structure of a patient using a surgical navigation system, the method comprising the steps of:

providing a surgical navigation system;

mounting a substrate in a removable manner to an outer surface of a user's body, the substrate having a positional device and a sensor that can be detected by the surgical navigation system to determine a position of the sensor;

covering a fingertip of the user with a finger mounted structure, wherein the finger mounted structure is movable in relation to the sensor, and wherein the positional device is adapted to determine a relative position of the finger mounted structure with respect to the positional device;

placing the finger mounted structure on the point of the anatomical structure to be determined;

calculating the relative position of the finger mounted structure in relation to the positional device; and

determining [[the]]a global position of the point by concatenating the position of the sensor and from the relative position of the finger mounted structure.

- 24. (canceled) The method of claim 23, wherein a first circuit calculates a global position of the point on the anatomical structure by correlating the position of the point on the anatomical structure and a position of the sensor.
- 25. (original) The method of claim 24, wherein a second circuit is provided for displaying the global position of the point on the anatomical structure.
- 26. (original) The method of claim 23, wherein a tip of the finger mounted structure is placed on the point of the anatomical structure to be determined.
- 27. (original) The method of claim 26, wherein the tip of the finger mounted structure is located adjacent a tip of the user's finger.

Art Unit: 3737

28. (original) The method of claim 26, wherein the tip of the finger mounted

structure is located adjacent a pad of the user's finger.

29. (original) The method of claim 26, wherein the tip of the finger mounted

structure is located anywhere along the length of the finger mounted structure.

30. (previously presented) The method of claim 23, wherein the finger mounted

structure is attached to the substrate and the substrate comprises a glove that is

sufficiently flexible to enable the finger mounted structure to reach a point on the

anatomical structure that is obstructed from view.

31. (original) The method of claim 23, wherein tactile feedback to the user aids

the user in maneuvering the finger mounted structure so that a position of the finger

mounted structure correlates to the point on the anatomical structure.

32. (canceled) The method of claim 23, wherein the anatomical structure is

mapped by concatenating the position of a plurality of points.

33. (previously presented) The method of claim 23, wherein the outer surface of

the user's body is a hand, and wherein the substrate comprises a flexible glove and the

finger mounted structure is a fingertip of the flexible glove.

34. (original) The method of claim 23, wherein the finger mounted structure

comprises a finger mounted pointer.

35. (original) The method of claim 34, wherein the finger mounted pointer

includes a depressible tip.

Art Unit: 3737

36. (original) The method of claim 35, wherein depressing the depressible tip activates the positional device.

- 37. (original) The method of claim 36, wherein the depressible tip includes a transducer for activating the positional device when a defined pressure value is met.
- 38. (original) The method of claim 35, wherein the depressible tip is placed on the point of the anatomical structure to be determined.
- 39. (original) The method of claim 23, wherein the substrate includes a switch to activate the positional device.
- 40. (original) The method of claim 39, wherein the switch is located on the palm of a hand.
- 41. (original) The method of claim 23, wherein the user may utilize a second tool, and wherein the concurrent use saves the user time.
- 42. (original) The method of claim 41, wherein the position of the point is determined at the same time the second tool is being used.
- 43. (previously presented) The method of claim 23, further comprising the steps of making an incision in a patient's body containing the anatomical structure, and reaching through the incision with the finger mounted structure to touch the point of the anatomical structure.
- 44. (original) The method of claim 43, wherein the incision has a length less than 10 centimeters.

Art Unit: 3737

45. (original) The method of claim 43, wherein the incision has a length less than 5 centimeters.

- 46. (original) The method of claim 43, wherein the incision has a length between about 2.5 centimeters and about 5 centimeters.
- 47. (original) The method of claim 43, wherein the incision is made in a region of a knee of the patient's body.
- 48. (original) The method of claim 43, wherein the incision is made in a region of a hip of the patient's body.
- 49. (original) The method of claim 23, wherein the sensor is an optical tracking device.
- 50. (original) The method of claim 23, wherein the anatomical structure is a bony structure.
- 51. (original) The method of claim 23, wherein the anatomical structure is an organ.
- 52. (original) The method of claim 23, wherein the positional device comprises a magnetic tracker.
- 53. (original) The method of claim 23, wherein the positional device comprises a fiber optic device.

Art Unit: 3737

54. (currently amended) A system for determining a global position of an object, comprising:

a navigation system;

a substrate comprising a glove adapted to be mounted to an outer surface of a user's body;

a sensor attached to the substrate that can be tracked by the navigation system to determine a position of the sensor;

a positional device attached to the substrate;

<u>a</u> structure mounted to a finger of the glove, wherein the structure is movable in relation to the sensor <u>and the structure is adapted to be placed adjacent to a point on the object</u>, and wherein the positional device is adapted to determine a relative position of the structure in relation to the positional device; and

a first circuit for calculating a global position of [[a]]the point on the object by correlating concatenating [[a]]the position of the sensor and the relative position of the structure.

- 55. (original) The system of claim 54, wherein a second circuit is provided for displaying the global position of the point on the object.
- 56. (previously presented) The system of claim 54, wherein the substrate is sufficiently flexible to enable the structure to reach a point on the object that is obstructed from view.
- 57. (previously presented) The system of claim 54, wherein tactile feedback to the user aids the user in maneuvering the structure so that the position of the structure correlates to the point on the object.
- 58. (canceled) The system of claim 54, wherein the object is mapped by concatenating the position of a plurality of points.

Art Unit: 3737

59. (previously presented) The system of claim 54, wherein the finger of the glove is separated from other portions of the substrate.

- 60. (previously presented) The system of claim 54, wherein the structure comprises a pointer.
- 61. (previously presented) The system of claim 60, wherein the pointer includes a depressible tip.
- 62. (original) The system of claim 61, wherein depressing the depressible tip activates the positional device.
- 63. (original) The system of claim 62, wherein the depressible tip includes a transducer for activating the positional device when a defined pressure value is met.
- 64. (previously presented) The system of claim 61, wherein the position of the structure is a position of the depressible tip.
- 65. (previously presented) The system of claim 54, wherein the position of the structure is a position of a tip of the structure.
- 66. (previously presented) The system of claim 65, wherein the tip of the structure is located at a tip of the user's finger.
- 67. (previously presented) The system of claim 65, wherein the tip of the structure is located at a pad of the user's finger.
- 68. (previously presented) The system of claim 65, wherein the tip of the structure is located anywhere along the length of the structure.

Art Unit: 3737

69. (original) The system of claim 54, wherein the substrate includes a switch to

activate the positional device

70. (original) The system of claim 69, wherein the switch is located on the palm

of a hand.

71. (original) The system of claim 54, wherein the sensor is an optical tracking

device.

72. (original) The system of claim 54, wherein the positional device comprises a

magnetic tracker.

73. (original) The system of claim 54, wherein the positional device comprises a

fiber optic device.

74. (currently amended) A method for determining a position of a point on an

object using a <u>surgical</u> navigation system, the method comprising the steps of:

providing a surgical navigation system;

mounting a glove on a user's hand, the glove having a positional device that

determines a position of a point on the object and a sensor that can be detected by the

surgical navigation system to determine a position of the sensor;

disposing a finger mounted structure on a finger of the glove capable of

communicating with the positional device to determine a relative position of the structure

in relation to the positional device, wherein the finger mounted structure is movable in

relation to the sensor;

placing the finger mounted structure on the point of the object to be determined;

and

Art Unit: 3737

determining [[the]]a global position of the point by concatenating the position of the sensor and the relative position of the structure.

75. (canceled) The method of claim 74, wherein a first circuit calculates a global position of the point on the object by correlating the position of the point on the object and a position of the sensor.

76. (previously presented) The method of claim 75, wherein a second circuit is provided for displaying the global position of the point on the object.

77. (previously presented) The method of claim 74, wherein the glove is sufficiently flexible to enable the finger mounted structure to reach a point on the object that is obstructed from view.

78. (original) The method of claim 74, wherein tactile feedback to the user aids the user in maneuvering the finger mounted structure so that a position of the finger mounted structure correlates to the point on the object.

79. (canceled) The method of claim 74, wherein the object is mapped by concatenating the position of a plurality of points.

80. (canceled)

- 81. (original) The method of claim 74, wherein the finger mounted structure comprises a finger mounted pointer.
- 82. (original) The method of claim 81, wherein the finger mounted pointer includes a depressible tip.

Art Unit: 3737

83. (original) The method of claim 82, wherein depressing the depressible tip activates the positional device.

- 84. (original) The method of claim 83, wherein the depressible tip includes a transducer for activating the positional device when a defined pressure value is met.
- 85. (original) The method of claim 82, wherein the depressible tip is placed on the point of the object to be determined.
- 86. (original) The method of claim 74, wherein a tip of the finger mounted structure is placed on the point of the object to be determined.
- 87. (original) The method of claim 86, wherein the tip of the finger mounted structure is located adjacent a tip of the user's finger.
- 88. (original) The method of claim 86, wherein the tip of the finger mounted structure is located adjacent a pad of the user's finger.
- 89. (original) The method of claim 86, wherein the tip of the finger mounted structure is located anywhere along the length of the finger mounted structure.
- 90. (original) The method of claim 74, wherein the user may utilize a second tool, and wherein the concurrent use saves the user time.
- 91. (original) The method of claim 90, wherein the position of the point is determined at the same time the second tool is being used.
- 92. (original) The method of claim 74, wherein the sensor is an optical tracking device.

Art Unit: 3737

93. (original) The method of claim 74, wherein the positional device comprises a magnetic tracker.

94. (original) The method of claim 74, wherein the positional device comprises a fiber optic device.

Art Unit: 3737

95. (currently amended) An apparatus for determining a position of a point on an anatomical structure, comprising:

a surgical navigation system;

a glove adapted to be mounted on a hand of a user;

a sensor_attached to the glove that can be tracked by the surgical navigation system to determine a position of the sensor;

and a magnetic tracker attached to the glove;

a structure comprising a magnetic sensor mounted to a finger of the glove, wherein the magnetic sensor is movable in relation to the sensor and the magnetic sensor is adapted to be placed adjacent to a point on the anatomical structure, and wherein the magnetic tracker determines a relative position of the magnetic sensor;

a first circuit for calculating [[the]]a global position of the point on the anatomical structure by correlating concatenating [[a]]the position of the sensor and the relative position of the magnetic sensor.

- 96. (previously presented) The apparatus of claim 95, wherein the glove is sufficiently flexible to enable the structure to reach a point on the anatomical structure that is obstructed from view.
- 97. (previously presented) The apparatus of claim 95, wherein tactile feedback to the user aids the user in maneuvering the structure so that a position of the structure correlates to a point on the anatomical structure.
- 98. (previously presented) The apparatus of claim 95, wherein the magnetic sensor is mounted on a tip of the structure, and wherein the tip is maneuvered by the user adjacent the point on the anatomical structure to be determined.
- 99. (previously presented) The apparatus of claim 98, wherein the tip of the structure is located adjacent a tip of a user's finger.

Art Unit: 3737

100. (previously presented) The apparatus of claim 98, wherein the tip of the

structure is located adjacent a pad of the user's finger.

101. (previously presented) The apparatus of claim 98, wherein the tip of the

structure is located anywhere along the length of the structure.

102. (canceled)

103. (previously presented) The apparatus of claim 95, wherein the structure

comprises a pointer mounted on a finger of the glove, and the magnetic sensor is

disposed adjacent the pointer.

104. (previously presented) The apparatus of claim 103, wherein the pointer

includes a depressible tip.

105. (previously presented) The apparatus of claim 104, wherein depressing the

depressible tip activates the magnetic tracker.

106. (previously presented) The apparatus of claim 105, wherein the

depressible tip includes a transducer for activating the magnetic tracker when a defined

pressure value is met.

107. (previously presented) The apparatus of claim 104, wherein the

depressible tip of the structure is maneuvered by the user adjacent the point on the

anatomical structure to be determined.

108. (original) The apparatus of claim 95, wherein the sensor is an optical

tracking device.

Art Unit: 3737

109-110. (canceled)

111. (currently amended) A method for determining a position of a point on an anatomical structure through a small incision opening using a surgical navigation system, wherein the point is obstructed from the incision, the method comprising the steps of:

providing a surgical navigation system;

mounting a substrate in a removable manner to an outer surface of a user's body;

covering a tip of the user's finger with a finger mounted pointer having a rigid tip, the finger mounted pointer being capable of communicating with an external positional device mounted on the substrate, the external positional device being associated with a sensor mounted on the substrate that can be detected by the surgical navigation system, and wherein the finger mounted pointer is movable in relation to the sensor;

manipulating the finger mounted pointer so that the rigid tip is in contact with the point to be determined;

determining the relative position of the finger mounted pointer in relation to the sensor with the external positional device;

determining the global position of the sensor; and

determining the global position of the point by concatenating from the relative position of the finger mounted pointer and the global position of the sensor.

112. (canceled)

- 113. (previously presented) The method of claim 111, further comprising the step of displaying the global position of the point on the anatomical structure.
- 114. (previously presented) The method of claim 111, wherein the substrate comprises a flexible glove.

Art Unit: 3737

115. (original) The method of claim 111, wherein tactile feedback to the user aids the user in maneuvering the finger mounted pointer so that a position of the rigid tip correlates to the point to be determined.

- 116. (canceled) The method of claim 111, further comprising the step of mapping the anatomical structure by concatenating the position of a plurality of points.
- 117. (original) The method of claim 111, wherein the finger mounted pointer includes a depressible tip.
- 118. (previously presented) The method of claim 117, further comprising the step of depressing the depressible tip to activate the positional device.
- 119. (original) The method of claim 118, wherein the depressible tip includes a transducer for activating the positional device when a defined pressure value is met.
- 120. (original) The method of claim 117, wherein the depressible tip comprises the rigid tip of the finger mounted pointer.
- 121. (original) The method of claim 111, wherein the rigid tip of the finger mounted pointer is located adjacent a tip of the user's finger.
- 122. (original) The method of claim 111, wherein the rigid tip of the finger mounted pointer is located adjacent a pad on the user's finger.
- 123. (original) The method of claim 111, wherein the rigid tip of the finger mounted pointer is located anywhere along the length of the finger mounted pointer.

Art Unit: 3737

124. (original) The method of claim 111, wherein the user may utilize a second tool, and wherein the concurrent use saves the user time.

- 125. (original) The method of claim 124, wherein the position of the point is determined at the same time the second tool is being used.
 - 126. (canceled)
- 127. (previously presented) The method of claim 137, wherein the small incision opening is less than 10 centimeters in length.
- 128. (previously presented) The method of claim 137, wherein the small incision opening is less than 5 centimeters.
- 129. (previously presented) The method of claim 137, wherein the small incision opening is between about 2.5 centimeters and about 5 centimeters.
- 130. (previously presented) The method of claim 137, wherein the small incision is made in a region of a knee of the patient's body.
- 131. (previously presented) The method of claim 137, wherein the small incision is made in a region of a hip of the patient's body.
- 132. (original) The method of claim 111, wherein the sensor is an optical tracking device.
- 133. (original) The method of claim 111, wherein the anatomical structure is a bony structure.
- 134. (original) The method of claim 111, wherein the anatomical structure is an organ.

Art Unit: 3737

135. (original) The method of claim 111, wherein the positional device comprises a magnetic tracker.

136. (original) The method of claim 111, wherein the positional device

comprises a fiber optic device.

137. (previously presented) The method of claim 111, wherein the small incision

is made in a patient's body containing the anatomical structure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELMER CHAO whose telephone number is (571)272-0674. The examiner can normally be reached on Mon-Thurs 11am-9pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on (571)272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3737

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BRIAN CASLER/ Supervisory Patent Examiner, Art Unit 3737

/E. C./ Examiner, Art Unit 3737